1. **Prepectoral and Retropectoral Breast-implant-Associated Anaplastic Large-cell Lymphoma**
   Linfoma anaplásico de células grandes asociado a implantes mamarios prepectoral y retropectoral

   INVESTIGADORES: Gonzalo Ziegler-Rodriguez, Milko Garces-Ruiz , Gabriel De La Cruz-Ku, Otto Ziegler-Rodriguez, Otto Ziegler-Gutierrez, Milko Garces-Castre, Jaime Montes-Gil, Jimena Neira, Luis Taxa-Rojas, Rosa Cebrian, Abhishek Chatterjee
   LINK: https://pubmed.ncbi.nlm.nih.gov/38204871/
   REVISTA: Plast Reconstr Surg Glob Open. 2024 Jan 10;12(1):e5520. doi:0.1097/GOX0000000000005520. eCollection 2024 Jan
   ABSTRACTO: Breast-implant-associated anaplastic large cell lymphoma (BIA-ALCL) is a non-Hodgkin lymphoma that arises in the space between the surface of a breast implant and the fibrous capsule that grows around the implant. Since its first description 20 years ago, almost 1000 cases of BIA-ALCL have been diagnosed worldwide. Nowadays, guidelines describe the diagnosis, staging, and treatment of this disease. We present the first two cases diagnosed and treated in Peru, demonstrating a wide range of aggressiveness of BIA-ALCL.

2. **Current and future trends in neoadjuvant immunotherapy for the treatment of triple-negative breast cancer**
   Tendencias actuales y futuras de la inmunoterapia neoadyuvante para el tratamiento del cáncer de mama triple negativo

   INVESTIGADORES: Ramon Andrade Bezerra de Mello, Kátia Roque Perez, Thais Pérez Vazquez.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38197149/
   REVISTA: Immunotherapy. 2024 Jan 10. doi: 10.2217/imt-2022-0277. Online ahead of print.
   ABSTRACTO: Triple-negative breast cancer (TNBC) comprises 15-20% of all breast cancers (BC). Lacking targeted therapy options, TNBC becomes the focal point of clinical investigations aiming not only to identify drugs with enhanced response potential but also to uncover new immunological and/or metabolic pathways conducive to more effective treatments. Currently, neoadjuvant treatment for TNBC relies on standard chemotherapy in conjunction with immunotherapy, given the improved response observed with this drug combination. This review delves into the latest therapeutic updates in TNBC treatment and explores potential advancements shaping the future landscape of this disease in the neoadjuvant setting.

3. **Systemic Treatment of Patients With Metastatic Breast Cancer: ASCO Resource-Stratified Guideline**
   Tratamiento sistémico de pacientes con cáncer de mama metastásico: guía estratificada por recursos de la ASCO

   INVESTIGADORES: Sana Al Sukhun, Sarah Temin, Carlos H Barrios, Nicoleta Zenovia Antone, Yanin Chavarri Guerra, Mariana Chavez-MacGregor, Rakesh Chopra, Michael A Danso, Henry Leonidas Gomez, N'Da Marcelin Homian, Alaa Kandil, Benda Kithaka, Bogda Koczwara, Beverly Moy, Gertrude Nakigudde, Fernando Enrique Petracci, Hope S Rugo, Nagi S El Saghir, Banu K Arun.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38206277/
   REVISTA: JCO Glob Oncol. 2024 Jan:10:e2300285. doi: 10.1200/GO.23.00285.
   ASTRACTO: Purpose: To guide clinicians and policymakers in three global resource-constrained settings on treating patients with metastatic breast cancer (MBC) when Maximal setting-

guideline recommended treatment is unavailable. Methods: A multidisciplinary, multinational panel reviewed existing ASCO guidelines and conducted modified ADAPTE and formal consensus processes. Results: Four published resource-agnostic guidelines were adapted for resource-constrained settings; informing two rounds of formal consensus; recommendations received ≥75% agreement. Recommendations: Clinicians should recommend treatment according to menopausal status, pathological and biomarker features when quality results are available. In first-line, for hormone receptor (HR)-positive MBC, when a non-steroidal aromatase inhibitor and CDK 4/6 inhibitor combination is unavailable, use hormonal therapy alone. For life-threatening disease, use single-agent chemotherapy or surgery for local control. For premenopausal patients, use ovarian suppression or ablation plus hormone therapy in Basic settings. For human epidermal growth factor receptor 2 (HER2)-positive MBC, if trastuzumab, pertuzumab, and chemotherapy are unavailable, use trastuzumab and chemotherapy; if unavailable, use chemotherapy. For HER2-positive, HR-positive MBC, use standard first-line therapy, or endocrine therapy if contraindications. For triple-negative MBC with unknown PD-L1 status, or if PD-L1-positive and immunotherapy unavailable, use single-agent chemotherapy. For germline BRCA1/2 mutation-positive MBC, if poly(ADP-ribose) polymerase inhibitor is unavailable, use hormonal therapy (HR-positive MBC) and chemotherapy (HR-negative MBC). In second-line, for HR-positive MBC, Enhanced setting recommendations depend on prior treatment; for Limited, use tamoxifen or chemotherapy. For HER2-positive MBC, if trastuzumab deruxtecan is unavailable, use trastuzumab emtansine; if unavailable, capecitabine and lapatinib; if unavailable, trastuzumab and/or chemotherapy (hormonal therapy alone for HR-positive MBC).Additional information is available at www.asco.org/resource-stratified-guidelines. It is ASCO's view that healthcare providers and system decision-makers should be guided by the recommendations for the highest stratum of resources available. The guideline is intended to complement but not replace local guidelines.

4. **Somatic Mutations in Latin American Breast Cancer Patients: A Systematic Review and Meta-Analysis**

   Mutaciones somáticas en pacientes latinoamericanas con cáncer de mama: una revisión sistemática y metanálisis

   INVESTIGADORES: Gabriela A Martínez-Nava, Laura Keren Urbina-Jara, Saúl Lira-Albarrán, Henry L Gómez, Erika Ruiz-García, María Tereza Nieto-Coronel, Rocio Ortiz-Lopez, Kenia Nadiezhda Martínez Villalba, Mariana Muñoz-Sánchez, Dione Aguilar, Liliana Gómez-Flores-Ramos, Sara Aileen Cabrera-Nieto, Alejandro Mohar, Marlid Cruz-Ramos.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38337803/
   REVISTA: Diagnostics (Basel). 2024 Jan 29;14(3):287. doi: 10.3390/diagnostics14030287.
   ASTRACTO: (1) Background: Somatic mutations may be connected to the exposome, potentially playing a role in breast cancer's development and clinical outcomes. There needs to be information regarding Latin American women specifically, as they are underrepresented in clinical trials and have limited access to somatic analysis in their countries. This study aims to systematically investigate somatic mutations in breast cancer patients from Latin America to gain a better understanding of tumor biology in the region. (2) Methods: We realize a systematic review of studies on breast cancer in 21 Latin American countries using various databases such as PubMed, Google Scholar, Web of Science, RedAlyc, Dianlet, and Biblioteca Virtual en Salud. Of 392 articles that fit the criteria, 10 studies have clinical data which can be used to create a database containing clinical and genetic information. We compared mutation frequencies across different breast cancer subtypes using statistical analyses and meta-analyses of proportions.

Furthermore, we identified overexpressed biological processes and canonical pathways through functional enrichment analysis. (3) Results: 342 mutations were found in six Latin American countries, with the TP53 and PIK3CA genes being the most studied mutations. The most common PIK3CA mutation was H1047R. Functional analysis provided insights into tumor biology and potential therapies. (4) Conclusion: evaluating specific somatic mutations in the Latin American population is crucial for understanding tumor biology and determining appropriate treatment options. Combining targeted therapies may improve clinical outcomes in breast cancer. Moreover, implementing healthy lifestyle strategies in Latin America could enhance therapy effectiveness and clinical outcomes.

5. **Survival according to the site of metastasis in triple-negative breast cancer patients: The Peruvian experience**
   Supervivencia según el sitio de metástasis en pacientes con cáncer de mama triple negativo: la experiencia peruana

   INVESTIGADORES: Luis Piedra-Delgado, Diego Chambergo-Michilot, Zaida Morante, Carlos Fairen, Fernando Jerves-Coello, Renato Luque-Benavides, Fresia Casas, Eduarda Bustamante, Cesar Razuri-Bustamante, J Smith Torres-Roman, Hugo Fuentes, Henry Gomez, Alexis Narvaez-Rojas, Gabriel De la Cruz-Ku, Jhajaira Araujo.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38300959/
   REVISTA: PLoS One. 2024 Feb 1;19(2):e0293833. doi: 10.1371/journal.pone.0293833. eCollection 2024.
   ASTRACTO: Background: Evidence regarding differences in survival associated with the site of metastasis in triple-negative breast cancer (TNBC) remains limited. Our aim was to analyze the overall survival (OS), distant relapse free survival (DRFS), and survival since the diagnosis of the relapse (MS), according to the side of metastasis. Methods: This was a retrospective study of TNBC patients with distant metastases at the Instituto Nacional de Enfermedades Neoplasicas (Lima, Peru) from 2000 to 2014. Prognostic factors were determined by multivariate Cox regression analysis. Results: In total, 309 patients were included. Regarding the type of metastasis, visceral metastasis accounted for 41% and the lung was the most frequent first site of metastasis (33.3%). With a median follow-up of 10.2 years, the 5-year DRFS and OS were 10% and 26%, respectively. N staging (N2-N3 vs. N0, HR = 1.49, 95%CI: 1.04-2.14), metastasis in visceral sites (vs. bone; HR = 1.55, 95%CI: 0.94-2.56), the central nervous system (vs. bone; HR = 1.88, 95% CI: 1.10-3.22), and multiple sites (vs. bone; HR = 2.55, 95%CI:1.53-4.25) were prognostic factors of OS whereas multiple metastasis (HR = 2.30, 95% CI: 1.42-3.72) was a predictor of MS. In terms of DRFS, there were no differences according to metastasis type or solid organ. Conclusion: TNBC patients with multiple metastasis and CNS metastasis have an increased risk of death compared to those with bone metastasis in terms of OS and MS.

6. **NKG2A Is a Therapeutic Vulnerability in Immunotherapy Resistant MHC-I Heterogeneous Triple-Negative Breast Cancer**
   NKG2A es una vulnerabilidad terapéutica en el cáncer de mama heterogéneo triple negativo MHC-I resistente a la inmunoterapia

   INVESTIGADORES: Brandie C Taylor, Xiaopeng Sun, Paula I Gonzalez-Ericsson, Violeta Sanchez, Melinda E Sanders, Elizabeth C Wescott, Susan R Opalenik, Ann Hanna, Shu-Ting Chou, Luc Van Kaer, Henry Gomez, Claudine Isaacs, Tarah J Ballinger, Cesar A Santa-Maria, Payal D Shah, Elizabeth C Dees, Brian D Lehmann, Vandana G Abramson, Jennifer A Pietenpol, Justin M Balko.

LINK: https://pubmed.ncbi.nlm.nih.gov/37791898/

REVISTA: Cancer Discov. 2024 Feb 8;14(2):290-307. doi: 10.1158/2159-8290.CD-23-0519.

ASTRACTO: Despite the success of immune checkpoint inhibition (ICI) in treating cancer, patients with triple-negative breast cancer (TNBC) often develop resistance to therapy, and the underlying mechanisms are unclear. MHC-I expression is essential for antigen presentation and T-cell-directed immunotherapy responses. This study demonstrates that TNBC patients display intratumor heterogeneity in regional MHC-I expression. In murine models, loss of MHC-I negates antitumor immunity and ICI response, whereas intratumor MHC-I heterogeneity leads to increased infiltration of natural killer (NK) cells in an IFNγ-dependent manner. Using spatial technologies, MHC-I heterogeneity is associated with clinical resistance to anti-programmed death (PD) L1 therapy and increased NK:T-cell ratios in human breast tumors. MHC-I heterogeneous tumors require NKG2A to suppress NK-cell function. Combining anti-NKG2A and anti-PD-L1 therapies restores complete response in heterogeneous MHC-I murine models, dependent on the presence of activated, tumor-infiltrating NK and CD8+ T cells. These results suggest that similar strategies may enhance patient benefit in clinical trials.

7. **Long-Term Follow-Up of the Anthracyclines in Early Breast Cancer Trials (USOR 06-090, NSABP B-46-I/USOR 07132, and NSABP B-49 [NRG Oncology])**

   Seguimiento a largo plazo de las antraciclinas en ensayos tempranos de cáncer de mama (USOR 06-090, NSABP B-46-I/USOR 07132 y NSABP B-49 [NRG Oncology])

   INVESTIGADORES: Charles E Geyer Jr, Joanne L Blum, Greg Yothers, Lina Asmar, Patrick J Flynn, Nicholas J Robert, Judith O Hopkins, Joyce A O'Shaughnessy, Priya Rastogi, Shannon L Puhalla, Christie J Hilton, Chau T Dang, Henry Leonidas Gómez, Svetislava J Vukelja, Alan P Lyss, Devchand Paul, Adam M Brufsky, Linda H Colangelo, Sandra M Swain, Eleftherios P Mamounas, Norman Wolmark.

   LINK: https://pubmed.ncbi.nlm.nih.gov/38335467/

   REVISTA: J Clin Oncol. 2024 Feb 9:JCO2301428. doi: 10.1200/JCO.23.01428. Online ahead of print.

   ASTRACTO: Clinical trials frequently include multiple end points that mature at different times. The initial report, typically based on the primary end point, may be published when key planned co-primary or secondary analyses are not yet available. Clinical Trial Updates provide an opportunity to disseminate additional results from studies, published in JCO or elsewhere, for which the primary end point has already been reported.The primary joint efficacy analysis of the Anthracyclines in Early Breast Cancer (ABC) trials reported in 2017 failed to demonstrate nonanthracycline adjuvant therapy was noninferior to anthracycline-based regimens in high-risk, early breast cancer. Full analyses of the studies had proceeded when the prespecified futility boundary was crossed at a planned futility analysis for the ability to demonstrate noninferiority of a nonanthracycline regimen with continued follow-up. These results were presented with 3.3 years of median follow-up. This manuscript reports results of the final analyses of the study efficacy end points conducted with 6.9 years of median follow-up. Long-term analysis of invasive disease-free survival (IDFS), the primary end point of the ABC trials, remains consistent with the original results, as noninferiority of the nonanthracycline regimens could not be declared on the basis of the original criteria. The secondary end point of recurrence-free interval, which excluded deaths not due to breast cancer as events, favored anthracycline-based regimens, and tests for heterogeneity were significant for hormone receptor status (P = .02) favoring anthracycline regimens for the hormone receptor-negative cohorts. There was no difference in overall survival, and review of the type of IDFS events in the groups suggested reductions in cancer recurrences

achieved with anthracycline regimens were offset by late leukemias and deaths unrelated to breast cancer.

8. **Advanced Breast Cancer Guidelines in Latin America: Assessment, Adaptation, and Implementation of Fifth Advanced Breast Cancer Consensus Guidelines**
   Guías Avanzadas sobre Cáncer de Mama en América Latina: Evaluación, Adaptación e Implementación de las Quintas Guías de Consenso sobre Cáncer Avanzado de Mama

   INVESTIGADORES: Fernando Valencia, Henry L Gómez, Silvia P Neciosup, Ronald Limón, María Del Carmen Torrico, Lena Morillas, Roberto Torres, Cesar Sánchez, Ingiborg Araya, Rodolfo Gómez, Ricardo Bruges, Carlos Vargas, Tannia Soria, René Muñoz, Mauricio Riofrío, Marco Gálvez, Rossana Ruiz, Pilar Benites, Fatima Cardoso.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38301184/
   REVISTA: JCO Glob Oncol. 2024 Feb:10:e2200067. doi: 10.1200/GO.22.00067.
   ASTRACTO: Purpose: As the fifth international consensus on advanced breast cancer (ABC5) established guidelines for the management of this disease, the aim of this article was to present the applicability of the consensus recommendations and to generate knowledge to improve access. Methods: Sixty-one recommendation statements were selected and discussed by 15 breast cancer experts from Latin America (LA). After the discussion, the level of consensus was determined through a vote. In addition to this, the level of access to each of the recommendations presented, according to the country and health system, was exposed. Results: Latin American experts had a high level of agreement with the ABC5 consensus recommendations (range, 83%-100%). Twelve of 61 statements are not available for all patients in LA. Among the limitations to access, the following ones are described: limited access to certain technologies (stereotactic body radiotherapy, positron emission tomography-computed tomography), the high costs of drugs that limits access to treatment with CDK4/6 inhibitors, pertuzumab, or poly(ADP-ribose) polymerase inhibitors, and the lack of molecular tests for access to therapeutic targets, as well as the difficult geography and cultural diversity of our continent. Conclusion: Despite the great relevance of the recommendations of the ABC5 consensus guidelines, we highlight that we still need to improve access for all patients, regardless of the country or health system they are in, for which we call to action to policy makers and patient groups to improve clinical outcomes of patients with advanced breast cancer in our region.

9. **Tumor-infiltrating lymphocytes refine outcomes in triple-negative breast cancer treated with anthracycline-free neoadjuvant chemotherapy**
   Los linfocitos infiltrantes de tumores mejoran los resultados en el cáncer de mama triple negativo tratado con quimioterapia neoadyuvante sin antraciclinas

   INVESTIGADORES: Miguel Martín, Rachel Yoder, Roberto Salgado, Maria Del Monte-Millán, Enrique L Alvarez, Isabel Echavarría, Joshua M Staley, Anne P O'Dea, Lauren E Nye, Shane R Stecklein, Coralia Bueno Muiño, Yolanda Jerez-Gilarranz, María Cebollero, Oscar Bueno, Jose Ángel Garcia-Saenz, Fernando Moreno, Uriel Bohn, Henry Gomez, Tatiana Massarrah, Qamar J Khan, Andrew K Godwin, Sara López-Tarruella, Priyanka Sharma.
   LINK: https://pubmed.ncbi.nlm.nih.gov/38466643/
   REVISTA: Clin Cancer Res. 2024 Mar 11. doi: 10.1158/1078-0432.CCR-24-0106. Online ahead of print.

ASTRACTO: Background: Stromal tumor-infiltrating lymphocytes (sTILs) are associated with pathologic complete response (pCR) and long-term outcomes for triple-negative breast cancer (TNBC) in setting of anthracycline-based chemotherapy. Impact of sTILs on refining outcomes beyond prognostic information provided by pCR in anthracycline-free neoadjuvant chemotherapy (NAC) is not known. Patients & methods: This is pooled analysis of two studies where patients with stage I(T>1cm)-III TNBC received carboplatin(AUC 6) plus docetaxel(75mg/m2) (CbD) NAC. sTILs were evaluated centrally on pre-treatment H&E slides using standard criteria. Cox regression analysis was used to examine effect on event-free survival (EFS) and overall survival (OS). Results: Among 474 patients, 44% had node-positive disease. Median sTILs were 5% (range 1%-95%), and 32% of patients had ≥30% sTILs. pCR rate was 51%. On multivariable analysis, T stage (OR=2.08,p=0.007), nodal status (OR=1.64,p=0.035), and sTILs (OR=1.10,p=0.011) were associated with pCR. On multivariate analysis, nodal status (HR=0.46,p=0.008), pCR(HR=0.20,p<0.001), and sTILs(HR=0.95,p=0.049) were associated with OS. At 30% cut-point, sTILs stratified outcomes in stage III disease, 5-year OS 86% vs 57% in ≥30% vs <30% sTILs (HR=0.29,p=0.014), and numeric trend in stage II, 5-year OS 93% vs 89% in ≥30% vs <30% sTILs (HR=0.55,p=0.179). Among stage II-III patients with pCR, EFS was better in those with ≥30% sTILs (HR=0.16,p=0.047). Conclusions: sTILs density was independent predictor of OS beyond clinicopathologic features and pathologic response in TNBC patients treated with anthracycline-free CbD chemotherapy. Notably, sTILs density stratified outcomes beyond TNM stage and pathologic response. These findings highlight role of sTILs in patient selection/stratification for neo/adjuvant escalation and de-escalation strategies.

10. **Epithelial Expressed B7-H4 Drives Differential Immunotherapy Response in Murine and Human Breast Cancer**

    El B7-H4 expresado epitelial impulsa la respuesta de inmunoterapia diferencial en el cáncer de mama humano y murino

    INVESTIGADORES: Elizabeth C Wescott, Xiaopeng Sun, Paula Gonzalez-Ericsson, Ann Hanna, Brandie C Taylor, Violeta Sanchez, Juliana Bronzini, Susan R Opalenik, Melinda E Sanders, Julia Wulfkuhle, Rosa I Gallagher, Henry Gomez, Claudine Isaacs, Vijaya Bharti, John T Wilson, Tarah J Ballinger, Cesar A Santa-Maria, Payal D Shah, Elizabeth C Dees, Brian D Lehmann, Vandana G Abramson, Gillian L Hirst, Lamorna Brown Swigart, Laura J van ˈt Veer, Laura J Esserman, Emanuel F Petricoin, Jennifer A Pietenpol, Justin M Balko.

    LINK: https://pubmed.ncbi.nlm.nih.gov/38687247/

    REVISTA: Cancer Res Commun. 2024 Apr 24;4(4):1120-1134. doi: 10.1158/2767-9764.CRC-23-0468.

    ASTRACTO: Combinations of immune checkpoint inhibitors (ICI, including anti-PD-1/PD-L1) and chemotherapy have been FDA approved for metastatic and early-stage triple-negative breast cancer (TNBC), but most patients do not benefit. B7-H4 is a B7 family ligand with proposed immunosuppressive functions being explored as a cancer immunotherapy target and may be associated with anti-PD-L1 resistance. However, little is known about its regulation and effect on immune cell function in breast cancers. We assessed murine and human breast cancer cells to identify regulation mechanisms of B7-H4 in vitro. We used an immunocompetent anti-PD-L1-sensitive orthotopic mammary cancer model and induced ectopic expression of B7-H4. We assessed therapy response and transcriptional changes at baseline and under treatment with anti-PD-L1. We observed B7-H4 was highly associated with epithelial cell status and transcription factors and found to be regulated by PI3K activity. EMT6 tumors with cell-surface B7-H4 expression were more resistant to immunotherapy. In addition, tumor-infiltrating immune cells

had reduced immune activation signaling based on transcriptomic analysis. Paradoxically, in human breast cancer, B7-H4 expression was associated with survival benefit for patients with metastatic TNBC treated with carboplatin plus anti-PD-L1 and was associated with no change in response or survival for patients with early breast cancer receiving chemotherapy plus anti-PD-1. While B7-H4 induces tumor resistance to anti-PD-L1 in murine models, there are alternative mechanisms of signaling and function in human cancers. In addition, the strong correlation of B7-H4 to epithelial cell markers suggests a potential regulatory mechanism of B7-H4 independent of PD-L1.

11. **What is the future of immune checkpoints inhibitors for metastatic triple negative breast cancers?**
    ¿Cuál es el futuro de los inhibidores de los puntos de control inmunitarios para los cánceres de mama metastásicos triple negativos?

    INVESTIGADORES: Ramon Andrade de Mello, Kátia Roque Perez, Puteri Abdul Haris.
    LINK: https://pubmed.ncbi.nlm.nih.gov/38686830/
    REVISTA: Immunotherapy. 2024 Apr 30. doi: 10.2217/imt-2024-0030. Online ahead of print.

12. **6th and 7th International consensus guidelines for the management of advanced breast cancer (ABC guidelines 6 and 7)**
    6.° y 7.° Guías de consenso internacional para el manejo del cáncer de mama avanzado (guías ABC 6 y 7)

    INVESTIGADORES: Fatima Cardoso, Shani Paluch-Shimon, Eva Schumacher-Wulf, Leonor Matos, Karen Gelmon, Matti S Aapro, Jyoti Bajpai, Carlos H Barrios, Jonas Bergh, Elizabeth Bergsten-Nordström, Laura Biganzoli, Maria João Cardoso, Lisa A Carey, Mariana Chavez Mac Gregor, Runcie Chidebe, Javier Cortés, Giuseppe Curigliano, Rebecca A Dent, Nagi S El Saghir, Alexandru Eniu, Lesley Fallowfield, Prudence A Francis, Sandra X Franco Millan, Jenny Gilchrist, Joseph Gligorov, William J Gradishar, Renate Haidinger, Nadia Harbeck, Xichun Hu, Ranjit Kaur, Belinda Kiely, Sung-Bae Kim, Smruti Koppikar, Marion J J Kuper-Hommel, Frédéric E Lecouvet, Ginny Mason, Shirley A Mertz, Volkmar Mueller, Claire Myerson, Silvia Neciosup, Birgitte V Offersen, Shinji Ohno, Olivia Pagani, Ann H Partridge, Frédérique Penault-Llorca, Aleix Prat, Hope S Rugo, Elzbieta Senkus, George W Sledge, Sandra M Swain, Christoph Thomssen, Daniel A Vorobiof, Peter Vuylsteke, Theresa Wiseman, Binghe Xu, Alberto Costa, Larry Norton, Eric P Winer.
    LINK: https://pubmed.ncbi.nlm.nih.gov/38896983/
    REVISTA: Breast. 2024 May 28:76:103756. doi: 10.1016/j.breast.2024.103756. Online ahead of print.
    ASTRACTO: This manuscript describes the Advanced Breast Cancer (ABC) international consensus guidelines updated at the last two ABC international consensus conferences (ABC 6 in 2021, virtual, and ABC 7 in 2023, in Lisbon, Portugal), organized by the ABC Global Alliance. It provides the main recommendations on how to best manage patients with advanced breast cancer (inoperable locally advanced or metastatic), of all breast cancer subtypes, as well as palliative and supportive care. These guidelines are based on available evidence or on expert opinion when a higher level of evidence is lacking. Each guideline is accompanied by the level of evidence (LoE), grade of recommendation (GoR) and percentage of consensus reached at the consensus conferences. Updated diagnostic and treatment algorithms are also provided. The guidelines represent the best management options for patients living with ABC globally,

assuming accessibility to all available therapies. Their adaptation (i.e. resource-stratified guidelines) is often needed in settings where access to care is limited.

13. **Importance about use of high-throughput sequencing in pediatric: case report of a patient with Fanconi-Bickel síndrome**
    Importancia del uso de la secuenciación de alto rendimiento en pediatría: reporte de caso de un paciente con síndrome de Fanconi-Bickel

    INVESTIGADORES: Hugo Hernán Abarca-Barriga, María Cristina Laso-Salazar, Diego Orihuela-Tacuri, Jenny Chirinos-Saire, Anahí Venero-Nuñez.
    LINK: https://pubmed.ncbi.nlm.nih.gov/38454379/
    REVISTA: Case Reports BMC Pediatr. 2024 Mar 7;24(1):161. doi: 10.1186/s12887-024-04641-1.
    ASTRACTO: Background: Fanconi-Bickel syndrome is characterized by hepatorenal disease caused by anomalous glycogen storage. It occurs due to variants in the SLC2A2 gene. We present a male patient of 2 years 7 months old, with failure to thrive, hepatomegaly, metabolic acidosis, hypophosphatemia, hypokalemia, hyperlactatemia. Results: Exome sequencing identified the homozygous pathogenic variant NM_000340.2(SLC2A2):c.1093 C > T (p.Arg365Ter), related with Fanconi-Bickel syndrome. He received treatment with bicarbonate, amlodipine, sodium citrate and citric acid solution, enalapril, alendronate and zolendronate, and nutritional management with uncooked cornstarch, resulting in an improvement of one standard deviation in weight and height. Conclusions: The importance of knowing the etiology in rare genetic disease is essential, not only to determine individual and familial recurrence risk, but also to establish the treatment and prognosis; in this sense, access to a new genomic technology in low- and middle-income countries is essential to shorten the diagnostic odyssey.

14. **Preventing and Treating Pain and Anxiety during Needle-Based Procedures in Children with Cancer in Low- and Middle-Income Countrie**
    Prevención y tratamiento del dolor y la ansiedad durante los procedimientos con agujas en niños con cáncer en países de ingresos bajos y medios

    INVESTIGADORES: Michael J McNeil, Ximena Garcia Quintero, Miriam Gonzalez, Yawen Zheng, Cecilia Ugaz Olivares, Roxana Morales, Erica Boldrini, Débora Rebollo de Campos, Daiane Ferreira, Kamalina Coopasamy, Joliza Caneba, Maria Louisa Padernilla, Stefan Friedrichsdorf, Justin N Baker, Paola Friedrich.
    LINK: https://pubmed.ncbi.nlm.nih.gov/38473383/
    REVISTA: Cancers (Basel). 2024 Mar 1;16(5):1025. doi: 10.3390/cancers16051025.
    ASTRACTO: Introduction: Children with cancer experience significant pain and anxiety during needle-based procedures. Undertreated pain in children has long-lasting consequences and reduces the efficacy of subsequent analgesic efforts. A validated quality improvement (QI) intervention, known as the "Children's Comfort Promise", includes (1) topical anesthetics, (2) sucrose or breastfeeding for infants, (3) comfort positioning, and (4) distraction techniques, and has been shown to be highly effective in decreasing procedural pain and anxiety in children. However, there is limited data about the adoption, adaptation, and implementation of these interventions in low- and middle-income countries (LMICs). Methods: A QI pilot project utilizing the Model for Improvement of the "Global Comfort Promise" was implemented in four global pediatric cancer hospitals (Lima, Peru; Barretos, Brazil; Pietermaritzburg, South Africa; and Manila, Philippines). Between August 2021 and January 2023, the pilot sites identified a specific aim, co-designed the measurement strategy with St. Jude Children's Research Hospital, and

adopted, adapted, and implemented the project at their individual sites. Results: A total of 2,185 different procedures were recorded in the first year of implementation. Most patients were less than 10 years old (60.5%) and solid tumors (37.9%) were the most common diagnosis. Overall, healthcare professionals (98.3%) were satisfied with the procedures. Parents and patients reported that only 33.7% of patients experienced pain during the procedure. All (100%) parents and patients felt the healthcare teams adequately addressed their child's pain. Median self-reported adherence to ≥2 interventions was 98.0%. Challenges to the implementation of the QI initiative included lack of training, turnover of the medical staff, maintaining staff enthusiasm, and access to topical anesthetics. Each site had unique change ideas to implement the initiative. Conclusions: This multi-site, multi-country QI initiative was feasible and was successfully adopted, adapted, and implemented in the LMIC context to improve procedural pain in children (Global Comfort Promise). Additionally, this intervention resulted in high satisfaction of both healthcare professionals and patients/families. Further work is needed to overcome the challenges of topical anesthetic access and education of the workforce. Additional plans include modifying the Global Comfort Promise to include high-quality communication and expanding to additional sites with further refinement of the implementation strategy.

1. **Subcutaneous Trastuzumab: An Observational Study of Safety and Tolerability in Patients With Early HER2-Positive Breast Cance**
   Trastuzumab subcutáneo: un estudio observacional de seguridad y tolerabilidad en pacientes con cáncer de mama HER2 positivo temprano

   INVESTIGADORES: Iris Otoya, Natalia Valdiviezo, Zaida Morante, Cindy Calle, Yomali Ferreyra, Norma Huarcaya-Chombo, Gabriela Polo-Mendoza, Carlos Castañeda, Tatiana Vidaurre, Silvia P Neciosup, Mónica J Calderón, Henry L Gomez.
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   REVISTA: Int J Breast Cancer. 2024 Jun 22:2024:9551710. doi: 10.1155/2024/9551710. eCollection 2024.
   ABSTRACTO: Purpose: In Peru, breast cancer (BC) stands as the most predominant malignancy neoplasm among women. Trastuzumab has marked a significant milestone in the management of this disease. It has been shown to improve prognosis in human epidermal growth factor receptor 2 (HER2)-expressing female patients, but its repercussions and efficacy are yet to be analyzed in a context with limited resources. Methods: The study population is made of woman patients aged 18 years and older diagnosed with HER2-positive BC at Instituto Nacional de Enfermedades Neoplásicas (INEN, Lima, Peru) during 2019-2021 and treated with at least one dose of subcutaneous trastuzumab. We reviewed medical records to register treatment characteristics, adverse events (AEs), disease progression, and survival status. We considered a median follow-up time of 36 and 45 months for progression and survival status. Results: The majority of patients were over 50 years old (54.29%). Tumor size averaged 19.7 ± 16.1 mm. Lymph nodes were present in 44.78% of patients. Most patients received adjuvant chemotherapy (63.8%) as first-line treatment. Descriptive analyses of treatment outcomes revealed a 30% toxicity rate, primarily attributed to arthralgia (47.62%), followed by diarrhea, fatigue, and injection site reactions, with relatively lower discontinuation rates compared to larger scale studies. Differences in demographic, clinical, and treatment characteristics were not statistically significant concerning the emergence of AEs ($p > 0.05$). Progression appeared in nine patients, and the overall survival (OS) rate stood at 98.6% and 92.8%, respectively, during a median follow-up of 36 and 45 months. Conclusion: The research suggests that subcutaneous trastuzumab is comparable in effectiveness and safety to the intravenous administration. Regional-specific studies may provide valuable insights into demographic factors influencing treatment outcomes in Peru or other countries. Furthermore, it could represent a more accessible alternative, potentially enhancing patient adherence and optimizing healthcare resource logistics.

2. **Subcutaneous versus intravenous administration of Trastuzumab: a minimization cost analysis with real world data from a reference cancer centre in Peru**
   Administración subcutánea versus intravenosa de Trastuzumab: un análisis de minimización de costos con datos del mundo real de un centro oncológico de referencia en Perú

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ABSTRACTO: Breast cancer (BC) is a global concern, with Peru experiencing a high incidence and mortality. Trastuzumab, a crucial treatment for human epidermal growth factor receptor 2-positive BC, is administered intravenously or subcutaneously (SC). This study evaluates the costs associated with both methods at Peru's Instituto Nacional de Enfermedades Neoplásicas. Real data indicate that SC administration reduces treatment costs by approximately S/15,049.09. Cross-continental comparisons highlight a global trend favouring SC administration for efficiency and cost-effectiveness. The analysis provides insights for informed decision-making in resource-constrained healthcare settings like Peru, emphasising the need to consider local contexts in optimising oncology care.

3. **Capivasertib and fulvestrant for patients with hormone receptor-positive, HER2-negative advanced breast cancer (CAPItello-291): patient-reported outcomes from a phase 3, randomised, double-blind, placebo-controlled trial**

Capivasertib y fulvestrant para pacientes con cáncer de mama avanzado con receptores hormonales positivos y HER2 negativo (CAPItello-291): resultados informados por pacientes de un ensayo de fase 3, aleatorizado, doble ciego y controlado con placebo

INVESTIGADORES: Mafalda Oliveira, Hope S Rugo, Sacha J Howell, Florence Dalenc, Javier Cortes, Henry L Gomez, Xichun Hu, Masakazu Toi, Komal Jhaveri, Petr Krivorotko, Sibylle Loibl, Serafin Morales Murillo, Meena Okera, Zbigniew Nowecki, Yeon Hee Park, Joo Hyuk Sohn, Eriko Tokunaga, Samih Yousef, Lyudmila Zhukova, Marta Fulford, Haylee Andrews, Ian Wadsworth, Celina D'Cruz, Nicholas C Turner; CAPItello-291 study group.

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REVISTA: Clinical Trial Lancet Oncol. 2024 Sep;25(9):1231-1244. doi: 10.1016/S1470-2045(24)00373-5.

ABSTRACTO: Background: CAPItello-291 is an ongoing phase 3 trial in which capivasertib-fulvestrant significantly improved progression-free survival versus placebo-fulvestrant in patients with hormone receptor-positive, HER2-negative advanced breast cancer who had relapse or disease progression during or after aromatase inhibitor treatment, in both the overall population and in patients with PIK3CA, AKT1, or PTEN-altered tumours. This study further explored patient-reported health-related quality of life (HRQOL), functioning, symptoms, and symptom tolerability in CAPItello-291. Methods: This phase 3, randomised, double-blind, placebo-controlled trial, which was conducted across 193 hospitals and cancer centres in 19 countries, enrolled women with any menopausal status or men, aged ≥18 years (≥20 years in Japan), with hormone receptor-positive, HER2-negative locally advanced or metastatic breast cancer who had relapse or disease progression during or after treatment with an aromatase inhibitor, with or without previous cyclin-dependent kinase (CDK) 4 or 6 inhibitor therapy. Patients had an Eastern Cooperative Oncology Group/WHO performance score of 0 or 1 and could have received up to two previous lines of endocrine therapy and up to one previous line of chemotherapy for advanced disease. Patients were randomly assigned (1:1) using block randomisation (stratified according to the presence or absence of liver metastases, previous use of a CDK4/6 inhibitor [yes vs no], and geographical region) to receive oral capivasertib 400 mg (twice daily for 4 days, followed by 3 days off) plus

intramuscular fulvestrant 500 mg (every 14 days for the first three injections, then every 28 days) or placebo with matching fulvestrant dosing. The dual primary endpoint of the trial was investigator-assessed progression-free survival assessed both in the overall population and among patients with PIK3CA, AKT1, or PTEN-altered tumours. The EORTC Quality of Life Questionnaire 30-item core module (QLQ-C30) and breast module (QLQ-BR23), Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events (PRO-CTCAE), and Patient Global Impression of Treatment Tolerability (PGI-TT) questionnaires were used to assess patient-reported outcomes. Evaluation of EORTC QLQ-C30 and EORTC QLQ-BR23 were secondary endpoints and evaluation of PRO-CTCAE and PGI-TT were pre-defined exploratory endpoints, and these endpoints are the subject of analysis in this Article. Data were collected at baseline and prespecified timepoints. Patient-reported outcomes were analysed in all randomly assigned patients with an evaluable baseline assessment and at least one evaluable post-baseline assessment. Change from baseline was assessed using mixed model with repeated measures for EORTC QLQ-C30 and summarised for QLQ-BR23. Time to deterioration was described using the Kaplan-Meier method. PGI-TT and PRO-CTCAE responses were summarised at each treatment cycle. Patient-reported outcomes were not prospectively powered for statistical comparison. The trial is registered with ClinicalTrials.gov, NCT04305496. Findings: Between June 2, 2020, and Oct 13, 2021, 901 patients were enrolled, of whom 708 patients were randomly assigned to receive capivasertib-fulvestrant (n=355) or placebo-fulvestrant (n=353). The median age of the patients was 59 years (IQR 51-67) in the capivasertib-fulvestrant group and 58 years (IQR 49-66) in the placebo-fulvestrant group. At data cutoff (Aug 15, 2022), the median duration of follow-up for progression-free survival in censored patients was 13·0 months (IQR 9·1-16·7) for capivasertib-fulvestrant and 12·7 months (IQR 2·0-16·4) for placebo-fulvestrant in the overall population. EORTC QLQ-C30 global health status/quality of life (GHS/QOL) scores were maintained from baseline and were similar between treatment groups throughout the study period (difference in mean change from baseline of -2·5 [95% CI -4·5 to -0·6] with capivasertib-fulvestrant vs -5·6 [-7·9 to -3·4] with placebo-fulvestrant; treatment difference 3·1 [95% CI 0·2 to 6·0]). Median time to deterioration in EORTC QLQ-C30 GHS/QOL was 24·9 months (95% CI 13·8 to not reached) in the capivasertib-fulvestrant group and 12·0 months (10·2 to 15·7) in the placebo-fulvestrant group (hazard ratio [HR] 0·70, 95% CI 0·53 to 0·92). Time to deterioration HRs for all EORTC QLQ-C30 and QLQ-BR23 subscale scores showed little difference between the treatment groups, except for diarrhoea, which was worse in the capivasertib-fulvestrant group than in the placebo-fulvestrant group (HR 2·75, 95% CI 2·01-3·81). In PRO-CTCAE symptom assessment, the proportion of patients reporting loose and watery stools "frequently" or "almost constantly" was 29% higher at cycle 1, day 15 in the capivasertib-fulvestrant group than in the placebo-fulvestrant group, decreasing at subsequent cycles. Other PRO-CTCAE-reported symptoms (rash, mouth or throat sores, itchy skin, and numbness or tingling in hands or feet) were absent or mild in most patients in both groups throughout treatment. According to the PGI-TT, most patients in both groups reported "not at all" or "a little bit" of bother from treatment side-effects. Interpretation: Patient-reported outcomes from CAPItello-291 demonstrated that capivasertib-fulvestrant delayed time to deterioration of GHS/QOL and maintained other dimensions of HRQOL (except symptoms of diarrhoea) similarly to fulvestrant. With the clinical efficacy and manageable safety profile, these exploratory results further support the positive benefit-risk profile of capivasertib-fulvestrant in this population.

4. **A plain language summary of the CAPItello-291 study: Capivasertib in hormone receptor-positive advanced breast cancer**
   Resumen en lenguaje sencillo del estudio CAPItello-291: Capivasertib en el cáncer de mama avanzado con receptores hormonales positivos

   ABSTRACTO: Nicholas C Turner, Mafalda Oliveira, Sacha J Howell, Florence Dalenc, Javier Cortés, Henry L Gomez, Xichun Hu, Komal Jhaveri, Petr Krivorotko, Sibylle Loibl, Serafin Morales Murillo, Yeon Hee Park, Joo-Hyuk Sohn, Masakazu Toi, Eriko Tokunaga, Samih Yousef, Lyudmila Zhukova, Elza de Bruin, Lynda Grinsted, Gaia Schiavon, Andrew Foxley, Hope S Rugo.
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   REVISTA: Future Oncol. 2024 Sep 16:1-13. doi: 10.1080/14796694.2024.2390791. Online ahead of print.
   ABSTRACTO: What is this summary about?: This is a summary of the article discussing the results of the CAPItello-291 study. In the study, participants had advanced breast cancer that could not be completely removed with surgery, and that was diagnosed as a type of breast cancer where tumor cells had hormone receptors (HR-positive) but did not have HER2 receptors (HER2-negative). All participants were also required to have previously received treatment with a type of therapy called an aromatase inhibitor (with or without a CDK4/6 inhibitor), but over time their cancer cells had still grown or spread. The CAPItello-291 study researchers wanted to find out if a treatment combination of the medications capivasertib plus fulvestrant worked better than placebo plus fulvestrant. Capivasertib is a drug that blocks the activity of a protein called AKT, which is found inside breast cancer cells. What are the key takeaways?: The main finding was that participants who took capivasertib plus fulvestrant lived longer without their disease getting worse (progressing) compared with those treated with placebo plus fulvestrant. This is called progression-free survival. This result was seen across all participants (median progression-free survival of 7.2 months with capivasertib plus fulvestrant vs 3.6 months with placebo plus fulvestrant). It was also seen in participants whose tumors had detectable genetic alterations in genes called PIK3CA, AKT1, and/ or PTEN (median progression-free survival of 7.3 months with capivasertib plus fulvestrant vs 3.1 months with placebo plus fulvestrant). The most common side effects experienced by participants included diarrhea and different types of rash. These were as expected (given how capivasertib works). The CAPItello-291 study is still ongoing, and more results are expected to be released in the future. What were the main conclusions reported by the researchers?: Results from the CAPItello-291 study showed that capivasertib plus fulvestrant compared with placebo plus fulvestrant improved progression-free survival in participants with HR-positive/ HER2-negative advanced breast cancer whose cancer had grown or spread despite hormone therapy (with/without a CDK4/6 inhibitor).

5. **Capivasertib and fulvestrant for patients with hormone receptor-positive advanced breast cancer: characterization, time course, and management of frequent adverse events from the phase III CAPItello-291 study**
   Capivasertib y fulvestrant para pacientes con cáncer de mama avanzado con receptores hormonales positivos: caracterización, evolución temporal y manejo de eventos adversos frecuentes del estudio de fase III CAPItello-291

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REVISTA: Clinical Trial ESMO Open. 2024 Sep;9(9):103697. doi: 10.1016/j.esmoop.2024.103697. Epub 2024 Sep 5
ABSTRACTO: Background: Capivasertib is a potent, selective pan-AKT inhibitor. In CAPItello-291, the addition of capivasertib to fulvestrant resulted in a statistically significant ($P < 0.001$) improvement in progression-free survival over fulvestrant monotherapy in patients with hormone receptor-positive/human epidermal growth factor receptor 2-negative advanced breast cancer and disease progression on or after aromatase inhibitor-based therapy. Characterization of the capivasertib-fulvestrant adverse event (AE) profile as managed in CAPItello-291 can inform future management guidance and optimize clinical benefit. Patients and methods: Seven hundred and eight patients were randomized 1 : 1 to capivasertib (400 mg twice daily; 4 days on, 3 days off) or placebo, plus fulvestrant, on a 4-week cycle. Dose reductions/interruptions for capivasertib/placebo were permitted (up to two dose reductions). Safety analyses included exposure, AE, and clinical laboratory data and were conducted in patients who received at least one dose of capivasertib, fulvestrant, or placebo. Frequent AEs associated with phosphoinositide 3-kinase (PI3K)/protein kinase (AKT) pathway inhibition (diarrhea, rash, hyperglycemia) were characterized using group terms. AEs were summarized using descriptive statistics; time-to-event analyses were conducted. Results: Safety analyses included 705 patients: capivasertib-fulvestrant (n = 355) and placebo-fulvestrant (n = 350). Frequent any-grade AEs with capivasertib-fulvestrant were diarrhea (72.4%), rash (38.0%), and nausea (34.6%); frequent grade ≥3 AEs were rash (12.1%), diarrhea (9.3%), and hyperglycemia (2.3%). Diarrhea, rash, and hyperglycemia occurred shortly after starting capivasertib-fulvestrant [median days to onset (interquartile range) of any grade: 8 (2-22), 12 (10-15), and 15 (1-51), respectively], and were managed with supportive medications, dose reductions, interruptions, and/or discontinuation. Discontinuation rates were 2.0%, 4.5%, and 0.3%, respectively. Overall, 13.0% discontinued capivasertib due to AEs. Conclusions: Frequent AEs associated with PI3K/AKT pathway inhibition occurred early and were manageable. The low rate of treatment discontinuations suggests that, when appropriately managed, these AEs do not pose a challenge to clinical benefit.

6. **Adjuvant Pertuzumab and Trastuzumab in Early Human Epidermal Growth Factor Receptor 2-Positive Breast Cancer in the APHINITY Trial: Third Interim Overall Survival Analysis With Efficacy Update**
   Pertuzumab y trastuzumab adyuvantes en el cáncer de mama en estadio temprano con receptor 2 del factor de crecimiento epidérmico humano positivo en el ensayo APHINITY: tercer análisis provisional de supervivencia general con actualización de eficacia

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Gomez, Judith Bliss, Giuseppe Viale, Jose Bines, Martine Piccart; APHINITY Steering Committee and Investigators.

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REVISTA: J Clin Oncol. 2024 Sep 11:JCO2302505. doi: 10.1200/JCO.23.02505. Online ahead of print.

ABSTRACTO: Clinical trials frequently include multiple end points that mature at different times. The initial report, typically based on the primary end point, may be published when key planned co-primary or secondary analyses are not yet available. Clinical Trial Updates provide an opportunity to disseminate additional results from studies, published in JCO or elsewhere, for which the primary end point has already been reported.The APHINITY trial (ClinicalTrials.gov identifier: NCT01358877) previously demonstrated that pertuzumab added to adjuvant trastuzumab and chemotherapy improved invasive disease-free survival (iDFS) for patients with early human epidermal growth factor receptor 2-positive (HER2+) breast cancer (BC). Here, we report the preplanned third interim analysis of overall survival (OS) and a descriptive updated iDFS analysis with 8.4 years of median follow-up of 4,804 patients in the intent-to-treat population. The 8-year OS was 92.7% in the pertuzumab versus 92.0% in the placebo group (hazard ratio [HR], 0.83 [95% CI, 0.68 to 1.02]; P = .078, above the 0.006 significance threshold). The HR was 0.80 [95% CI 0.63 to 1.00] in the node-positive cohort and 0.99 [95% CI, 0.64 to 1.55] in the node-negative cohort. Updated results of 8-year iDFS in the node-positive cohort showed an absolute improvement of 4.9% favoring pertuzumab (86.1% v 81.2%; HR, 0.72 [95% CI, 0.60 to 0.87]). The node-negative cohort did well without adding pertuzumab (8-year iDFS and OS in the placebo group were 93.3% and 96.4%, respectively). The iDFS benefit was seen in the hormone receptor-negative (HR, 0.82 [95% CI, 0.64 to 1.06]) and HR+ cohorts (HR of 0.75 [95% CI, 0.61 to 0.92]). Despite improvement in overall iDFS, the addition of pertuzumab did not improve OS at this third interim analysis.

7. **Core needle biopsy of breast tumours: comparison of diagnostic performance between surgery and radiology services at a national cancer centre in Latin America**

Biopsia con aguja gruesa de tumores de mama: comparación del desempeño diagnóstico entre los servicios de cirugía y radiología en un centro oncológico nacional de América Latina

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ABSTRACTO: Introduction: Breast pathology is a very common reason for medical attention. Tissue diagnosis is usually obtained with core needle biopsy which could be performed by breast surgeons or interventional radiologists. Our aim was to assess the comparison of diagnostic performance between the two services. Methods: A retrospective, descriptive and cross-sectional study was carried out on patients who had breast pathology at Instituto Nacional de Enfermedades Neoplasicas in 2019. Descriptive analyses, sensitivity and specificity were calculated using the R program version 4.2.3.

Results: From 1,082 patients with breast tumours who underwent core needle biopsy (CNB) during 2019, 782 cases were included. Breast surgeons performed 462 CNBs and radiologists performed 320 CNBs. The 87.5% were palpable tumours and 525 breast carcinomas were identified in the final pathology. The diagnostic performance showed that the sensitivity and specificity were greater than 95% and 98%, respectively. The waiting time in both showed that >95% underwent a CNB before 2 months. The breast surgery service performed the majority of the biopsies in less than 1 week since the indication of the execution of the CNB compared to the radiology service (90% versus 36%). Conclusion: Both hospital services, breast surgery and radiology, are efficient in determining an accurate diagnosis using CNB. However, the breast surgery service performs CNB in a shorter time interval. Breast surgical oncologists are encouraged to perform CNB if there are understaffed radiology services to expedite the diagnosis and treatment of breast cancer patients.

8. **Clinicopathological features associated with CD44 and CD63 expression in breast cancer**

   Características clinicopatológicas asociadas con la expresión de CD44 y CD63 en el cáncer de mama

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   REVISTA: Ecancermedicalscience. 2024 Sep 26:18:1779. doi: 10.3332/ecancer.2024.1779. eCollection 2024.
   ABSTRACTO: Background: CD44 is a cell-surface transmembrane glycoprotein that participates in the regulation of many cellular processes, including cell division, adhesion, migration and stem-like characteristics. CD63 is involved in the exocytosis process. Objective: To evaluate the relationship between CD44 and CD63 expression and clinicopathological features, including tumor-infiltrating lymphocytes (TILs), phosphoinositide 3-kinase (PIK3CA) mutation and survival. Methodology: CD44 and CD63 were stained in samples from 101 breast cancer cases from Peruvian women. Results: Median age was 52 years, most were most were grade-3 (68%), estrogen receptor (ER)+ (64%) and stage II-III (92%). Median ki67 was 30%, median stromal TIL was 30% and PIK3CA mutation was found in 49%. Longer survival was associated with earlier stages ($p = 0.016$), lower ki67 ($p = 0.023$), ER+ ($p = 0.034$), luminal phenotype ($p = 0.029$) and recurrence ($p < 0.001$). CD44 was classified as high cell density staining in 57% and high intensity in 55%. High CD44 density was associated with younger age ($p = 0.043$), triple-negative phenotype ($p = 0.035$) and shorter survival ($p = 0.005$). High CD44 expression was associated with short survival ($p = 0.005$). High CD63 cell density was found in 56% of cases and was associated with ER-positive ($p = 0.045$), low TIL levels ($p = 0.007$), Luminal-A ($p = 0.015$) and low CD44 intensity ($p = 0.032$). Conclusion: CD44 expression was associated with aggressive features and low CD63 density staining.

9. **TNBC-DX genomic test in early-stage triple-negative breast cancer treated with neoadjuvant taxane-based therapy**

Prueba genómica TNBC-DX en cáncer de mama triple negativo en etapa temprana tratado con terapia neoadyuvante basada en taxanos

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REVISTAS: Ann Oncol. 2024 Oct 15:S0923-7534(24)04061-4. doi: 10.1016/j.annonc.2024.10.012. Online ahead of print.

ABSTRACTO: Background: Identification of biomarkers to optimize treatment strategies for early-stage triple-negative breast cancer (TNBC) is crucial. This study presents the development and validation of TNBC-DX, a novel test aimed at predicting both short- and long-term outcomes in early-stage TNBC. Methods: Information from 1,259 patients with early-stage TNBC (SCAN-B, CALGB-40603, and BrighTNess) were used to establish the TNBC-DX scores. Independent validation of TNBC-DX was carried out in 3 studies: i) WSG-ADAPT-TN, ii) MMJ-CAR-2014-01, and iii) NeoPACT, including 527 patients with stage I-III TNBC undergoing neoadjuvant chemotherapy. In WSG-ADAPT-TN, patients were randomized to receive nab-paclitaxel plus gemcitabine or carboplatin. In MMJ-CAR-2014-01, patients received carboplatin plus docetaxel. In NeoPACT, patients received carboplatin plus docetaxel and pembrolizumab. The objective of this study was to evaluate the association between TNBC-DX and efficacy outcomes (pCR, distant disease-free survival [DDFS] or event-free survival [EFS], and overall survival [OS]) in the validation cohorts. Results: TNBC-DX test was created incorporating 10-gene core immune gene module, 4-gene tumor cell proliferation signature, tumor size, and nodal staging. In the 2 independent validation cohorts without pembrolizumab, the TNBC-DX pCR score was significantly associated with pCR after adjustment for clinicopathological variables and treatment regimen (odds ratio per 10-units increment=1.34, 95% CI 1.20-1.52, p<0.001). pCR rates for the TNBC-DX pCR-high, -medium, and -low categories were 56.3%, 53.6%, and 22.5% respectively (odds ratio for pCR-high vs pCR-low=3.48 [95% CI 1.72-7.15], p<0.001). Additionally, the TNBC-DX risk score was significantly associated with DDFS (hazard ratio [HR] high-risk vs low-risk=0.24, 95% CI 0.15-0.41, p<0.001) and OS (HR=0.19, 95% CI 0.11-0.35, p<0.001). In the validation cohort with pembrolizumab, the TNBC-DX scores were significantly associated with pCR, EFS, and OS. Conclusions: TNBC-DX predicts pCR to neoadjuvant taxane-carboplatin in stage I-III TNBC and helps to forecast the patient´s long-term survival in the absence of neoadjuvant anthracycline/cyclophosphamide, and independent of pembrolizumab use.

10. **Final analysis of the ALTTO trial: adjuvant trastuzumab in sequence or in combination with lapatinib in patients with HER2-positive early breast**

Análisis final del ensayo ALTTO: trastuzumab adyuvante en secuencia o en combinación con lapatinib en pacientes con cáncer de mama temprano HER2-positivo

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ABSTRACTO: Background: Dual anti-human epidermal growth factor receptor 2 (HER2) blockade has improved the outcomes of patients with early and metastatic HER2-positive breast cancer. Here we present the final 10-year analysis of the ALTTO trial. Patients and methods: The ALTTO trial (NCT00490139) is a prospective randomized, phase III, open-label, multicenter study that investigated the role of adjuvant chemotherapy and trastuzumab alone, in combination or sequentially with lapatinib. The primary endpoint was disease-free survival (DFS) and secondary endpoints included overall survival (OS), time to distant recurrence and safety. Results: Overall, 6281 patients with HER2-positive early breast cancer were included in the final efficacy analysis in three treatment groups: trastuzumab (T), lapatinib + trastuzumab (L + T) and trastuzumab followed by lapatinib (T→L). Baseline characteristics were well balanced between groups. At a median follow-up of 9.8 years, the addition of lapatinib to trastuzumab and chemotherapy did not significantly improve DFS nor OS. The 10-year DFS was 77% in T, 79% in L + T and 79% in T→L, and the 10-year OS was 87%, 89% and 89%, respectively. The incidence of any cardiac event was low and similar in the three treatment groups. Conclusions: With a longer follow-up, no significant improvement was observed in DFS in patients treated with dual anti-HER2 blockade with lapatinib + trastuzumab compared to trastuzumab alone. The 10-year survival rates for the combination group are consistent with other studies that have explored dual anti-HER2 therapy.

11. **Impact on Survival with Immunotherapy and Evaluation of Biomarkers in Peruvian Patients with Advanced Melanoma**

    Impacto en la supervivencia con inmunoterapia y evaluación de biomarcadores en pacientes peruanos con melanoma avanzado

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    ABSTRACTO: Introduction: Advanced malignant melanoma is a very aggressive disease, historically with poor prognosis before the new advances with immunotherapy and targeted therapies that have changed the standard of care, especially in cutaneous melanoma. Peru has aggressive features such as higher rates of acral lentiginous melanoma (ALM) subtype with historically shorter survival. Methods: This study

describes Peruvian patients with advanced melanoma treated with immunotherapy (nivolumab) in two oncological institutions (public and private), including the discussion of the impact on overall survival (OS) divided by subtype (with incidence in ALM histology) and potential biomarkers that could be related to prognosis. Results: We found that immunotherapy is safe, and improves progression-free survival (PFS), OS and objective response rate (ORR) in our patients, with lower benefit in ALM histology. No prognostic blood inflammatory biomarkers were detected. Discussion: There is very limited data of Peruvian patients with metastatic melanoma treated with immunotherapy, especially the outcomes in ALM histology. Our goal is to share an example of the impact of immunotherapy in a Latin American (LATAM) population considered as an unsatisfied group with an enormous need of novel treatments and biomarkers.

12. **Evaluation of multiple breast cancer polygenic risk score panels in women of Latin American heritage**

    Evaluación de múltiples paneles de puntuación de riesgo poligénico para el cáncer de mama en mujeres de ascendencia latinoamericana

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    LINK: https://pubmed.ncbi.nlm.nih.gov/39625644/
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    ABSTRACTO: Background: A substantial portion of the genetic predisposition for breast cancer is explained by multiple common genetic variants of relatively small effect. A subset of these variants, which have been identified mostly in individuals of European and Asian ancestry, have been combined to construct a polygenic risk score (PRS) to predict breast cancer risk, but the prediction accuracy of existing PRSs in Hispanic/Latinx individuals (H/L) remain relatively low. We assessed the performance of several existing PRS panels with and without addition of H/L specific variants among self-reported H/L women. Methods: PRS performance was evaluated using multivariable logistic regression and the area under the receiver operating characteristic curve (AUC). Results: Both European and Asian PRSs performed worse in H/L samples compared to original reports. The best European PRS performed better than the best Asian PRS in pooled H/L samples. European PRSs had decreased performance with increasing Indigenous American (IA) ancestry while Asian PRSs had increased performance with increasing IA ancestry. The addition of 2 H/L SNPs increased performance for all PRSs, most notably in the samples with high IA ancestry and did not impact the performance of PRSs in individuals with lower IA ancestry. Conclusions: A single PRS that incorporates risk

variants relevant to the multiple ancestral components of individuals from Latin America, instead of a set of ancestry specific panels, could be used in clinical practice.